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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,463	04/21/2005	Atsushi Nakayama	Q8-4985	2865
23373 7590 11/17/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER RONESL VICKERY M	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 11/17/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/516,463

Applicant(s)

NAKAYAMA ET AL.

Examiner

VICKEY RONESI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 7/29/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. All outstanding objections and rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on 8/22/2008
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
3. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 8/22/2008. In particular, claims 13-21 are new. Thus, the following action is properly made final.

Claim Rejections - 35 USC § 103

4. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scholl et al (US 5,663,226, cited on IDS dated 12/3/2004).

Scholl et al discloses rubber mixtures for use in tires (abstract) comprising rubber such as natural rubber (i.e., diene rubber) (col. 5, lines 39-59); 0.1-10 wt % reinforcing additives of the formula $(RO)_3SiCH_2CH_2CH_2-(S_x-CH_2CH_2)_n-S_x-CH_2CH_2CH_2Si(OR)_3$ wherein $x = 1-6$ and $n = 1-10$ (col. 2, lines 21-30); and 0-150 wt % filler such as silica having a BET surface area of preferably 20-400 m²/g (col. 4, lines 44-67).

Scholl et al fails (i) to disclose a reinforcing additive having the presently claimed formulae (III) or (IV); (ii) to disclose a reinforcing additive of formula (I) and formula (IV) having decylene or phenylene groups; (iii) to disclose the purity of the reinforcing additive; and (iv) to disclose a tire tread.

With respect to (i), regarding formula (III), the formula taught by Scholl et al reads on it when $x = 1-3$ and $n = 2$. Regarding formula (IV), the formula taught by Scholl et al reads on it when $x = 1-3$ and $n = 3$.

Given that some of the embodiments taught of the formula taught by Scholl et al read on the instantly claimed formulae (III) and (IV), it would have been obvious to one of ordinary skill in the art at the invention to prepare a rubber composition comprising a reinforcing additive like taught by Scholl et al, absent evidence of unexpected or surprising results that is reasonably commensurate in scope with the scope of the claims.

With respect to (ii), Scholl et al's formula (I) in col. 1, line 43 discloses that X^1 can be alkylene groups, X^2 group can be C_1-C_{12} alkyl (i.e., includes decylene), and that Y can be C_1-C_{18} alkyl (i.e., includes decylene) or aromatic C_6-C_{12} aryl groups. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize decylene or phenylene groups in the reinforcing additive formula given that Scholl et al teaches such.

With respect to (iii), Scholl et al teaches that the reinforcing is vacuum filtered after being prepared (col. 7, lines 19-20). Given that Scholl et al teaches a purification step, it would have been obvious to one of ordinary skill in the art to prepare a reinforcing additive having the presently claimed purity.

With respect to (iv), Scholl et al teaches that its composition is used in tires and that the composition has excellent abrasion and skid resistance (abstract). Given that Scholl et al teaches the use of the composition in tires and further given the excellent abrasion and skin resistance properties (i.e., properties very useful in forming a tire tread which has contact with the ground),

it would have been obvious to one of ordinary skill in the art at the time of invention to use the composition taught by Scholl et al in a tire tread.

Response to Arguments

Applicant's arguments filed 8/22/2008 have been fully considered but they are not persuasive. Specifically, applicant argues (A) that m in formula (I) is limited to 1-2; (B) that a silane compound of the present invention can unexpectedly improved processability of a rubber composition; and (C) that Scholl does not disclose a decylene or phenylene group as R⁵.

With respect to argument (A), Scholl teaches that n (i.e., m in the present invention) can be 1-10. A range of 1-10 overlaps and has a shared endpoint with 1-2.

With respect to argument (B), the data in the specification as originally filed has been fully considered, however, it is insufficient to establish unexpected results for three reasons. First, the comparison of comparative example 4 to examples 5 or 8 is improper given that the purity of the silane in comparative example 4 is 54.0% which is about 30 % less than the purity of the inventive examples. Therefore, it is not possible to tell whether the differences in scorch time are due to the purity or due to the m and x values. Second, the comparison of comparative example 3 to other examples is a proper side-by-side comparison, however, the data is insufficient to establish unexpected results given that the data is not reasonably commensurate in scope with the scope of the claims. Case law holds that evidence is insufficient to rebut a *prima facie* case if not commensurate in scope with the claimed invention. *In re Grasselli*, 713 F.2d 731, 741, 218 USPQ 769, 777 (Fed. Cir. 1983). Specifically, the exemplified silane compounds (SE2, SE5, SE8, SE10, and SE11) only include R⁶, R⁷, R⁸, R⁹, and R¹⁰ that are hexylene or

decylene, wherein the claimed groups can be any group with 1-20 carbon atoms. Case law holds that evidence of superior properties in one species insufficient to establish the nonobviousness of a subgenus containing hundreds of compounds. *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978). Furthermore, the amount of silane compound relative to silica is not reasonably commensurate in scope with the scope of the claims given that amount of exemplified silane compound is about 7.5 parts by weight and the claimed amount is 1-30 parts by weight. Case law holds that whether the unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, the "objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support." In other words, the showing of unexpected results must be reviewed to see if the results occur over the entire claimed range (i.e., scope). *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980), MPEP 716.02(d). Third, there does not seem to be a significant difference between example 1 and example 2 which a silane compound of formula (I) with R⁴ of formula (II) having a decylene as R⁵ as compared to a silane compound with hexylene as R⁵ to establish criticality of decylene or hexylene in formula (II).

With respect to argument (C), Scholl et al's formula (I) in col. 1, line 43 which shows that the alkylene groups in the formula can be X¹ and X² groups can be C₁-C₁₂ alkyl (i.e., includes decylene) and that Y can be C₁-C₁₈ alkyl (i.e., includes decylene) or aromatic C₆-C₁₂ aryl groups. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize decylene or phenylene groups in the reinforcing additive formula given that Scholl et al teaches each.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/12/2008

Vickey Ronesi

/V. R./

Examiner, Art Unit 1796

/Vasu Jagannathan/

Supervisory Patent Examiner, Art Unit 1796